



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

TO: MGK[®] Repellent 326 RED Team Members

FROM: Tawanda Spears, Chemical Review Manager
Special Review and Reregistration Division

SUBJECT: Di-N-propyl isocinchomerate (MGK[®] Repellent 326) Use Closure Memo
PC Code: 047201; Case No.: 2215; CAS No.: 136-45-8

As follow-up from the October 16, 2002, SMART meeting and subsequent communications between the Reregistration Eligibility Decision (RED) team and the technical registrant, this memorandum will serve as the Agency's record of common understanding for uses of MGK[®] Repellent 326 that are to be considered for the RED, reflecting current registered product information (i.e., animal/human uses and deleted uses).

BACKGROUND:

In 1989, McLaughlin Gormley King (MGK) Company, the technical registrant for MGK[®] Repellent 326, deleted all livestock and/or food processing uses from their labels, rather than conduct the residue chemistry data necessary to support food uses. Currently, there are 91 active products containing MGK[®] Repellent 326 as the active ingredient and no Special Local Needs (SLN) 24(c) products. However, several end-use products still have food uses on the label that need to be revised. The Agency is in the process of removing all these food uses from the aforementioned end-use labels.

Currently, the technical registrant supports indoor non-food and residential use (i.e., repellents for human and non-food animal). MGK[®] Repellent 326 is used solely as an insect repellent. Due to the complexity of identifying the use pattern for MGK[®] Repellent 326, a QUA was not developed. Subsequently, the information below was provided by the registrant. Based on information from the SMART meeting, total annual domestic usage of MGK[®] Repellent 326 is 26,111 pounds of active ingredient (a.i.) (1997-2001 estimates).

However, since the SMART meeting, MGK Company conducted an analysis of the distribution of MGK[®] Repellent 326 they sold during the year 2002. In total, 24,702 pounds of a.i. were produced and sold, of which 38% was sold to customers with pesticide labels for use as "personal insect repellents," 54% for use on horses, and 8% for use on dogs and cats.

FORMULATIONS, USES AND USE SITES:

There are no uses of MGK[®] Repellent 326 as a foliar crop application or as an application to meat and milk producing animals. Products containing MGK[®] Repellent 326 are intended for application to companion animals (i.e., kittens, cats, puppies, dogs, and horses) and their outdoor premises (i.e., kennels, barns, *etc.*). MGK[®] Repellent 326 products are also intended for direct application to humans.

MGK[®] Repellent 326 is used solely as a component of insect repellent formulations. However, it is never used alone as the sole active ingredient, and seldom used as the sole repellent. Rather, it is mostly used to expand the repellency of other formulation components, e.g. DEET (N,N-diethyl-m-toluamide) or pyrethrins. There are several ready to use products formulated in lotions, aerosol or pump sprays, roll-on sticks, gels, creams, shampoos (animals only) and towelettes. These products are applied on an “as needed” basis. The liquid formulated products are used to prepare dip treatments for pets.

Humans

For use on humans, it is always combined with DEET and MGK 264 (N-Octyl bicycloheptene dicarboximide), with DEET being the primary a.i. For these human use products, the ratio of DEET to MGK[®] Repellent 326 ranges from 6.5:1 to 15:1; but 17 of the 19 products have ratios from 7:1 to 10:1. The ratio of MGK 264 to MGK[®] Repellent 326 in these products is always 2:1.

The amount of MGK[®] Repellent 326 in aerosol products range from 1.0% to 2.5% and are labeled to “apply to cover exposed skin or clothing.” The other human applications are lotions or liquids, and the directions are to apply to cover exposed skin. These products range in percentage of MGK[®] Repellent 326 from 1.76% to 4.0%.

Table 1: MGK[®] Repellent 326 products for use on humans.

Product Name	EPA Registration No.	Percent Active Ingredient (% a.i.)
Repel Insect Repellent Unscented Sportsmen Formula 18	305-40	2.5
Spray Pak Insect Repellent	498-148	2.5
Spray Pak Insect Repellent 3	498-175	2.5
Sureco Insect Repellent Spray	769-606	2.5
MGK Insect Repellent Spray 2559	1021-1600	2.5
Sport Mosquito & Tick Stop	3546-39	4.0
Bug Barrier	7754-40	1.0
Bug Barrier II	7754-41	2.5
Insect Repellent Towel	10088-97	1.76
Contact Personal Insect Repellent	10806-34	1.5
Misty Insect Repellent Spray	10807-29	1.0
Misty Insect Repellent II	10807-127	2.5

Product Name	EPA Registration No.	Percent Active Ingredient (% a.i.)
856 Insect Repellent II	10900-72	2.5
Speer Double Strength Insect Repellent	11715-85	1.92
Bug Ban Plus Personal Insect Repellent	44446-48	2.5
C.C.L. Personal Insect Repellent	46813-22	2.5
PowderDeet 25	50830-3	3.0
Insect Guard II	54287-8	2.5
Deet Plus Composite Insect Spray II	54287-13	2.5

Companion Animals

For use on companion animals (i.e., horses, dogs and cats), the formulations contain many other active ingredients, including several pyrethroids. The complete list is as follows: DEET, pyrethrins, MGK 264, piperonyl butoxide, cypermethrin, permethrin, prallethrin, allethrin stereoisomers, tetramethrin, sumithrin, pyriproxyfen (Nylar), DDVP, and polypropylene glycol. Of the 57 products currently registered for use on companion animals, only one product contains DEET (i.e., EPA Reg. No. 37425-14). Most products (. 75%) contain natural pyrethrins, which acts as both a repellent and as an insecticide to kill insect on contact. Most products (. 93%) contain piperonyl butoxide and/or MGK 264, which both act as synergists with natural pyrethrins (i.e., they enhance the toxic effects of pyrethrins).

Dip applications to dogs and cats are with a 4.0% MGK® Repellent 326 product diluted at the rate of 1 fl. oz. in 1 gallon of water. There are also sprays containing 0.2% MGK® Repellent 326 and wipe on towelettes at 1.0% MGK® Repellent 326 that can be applied to horses. The concentrate products contain a maximum of 5.0% a.i. and the directions are to apply undiluted material with a mist applicator at the rate of 1 fl. oz. to 1000 sq. ft. of space in outdoor premises (i.e., the interior of kennels, barns, *etc.*).

Table 2: MGK® Repellent 326 products for use on companion animals & their outdoor premises (i.e., kennels, barns, *etc.*).

Product Name	EPA Registration No.	Percent Active Ingredient (% a.i.)
Farnam Wipe Fly Repellent	270-37	1.0
SWAT Fly Repellent Ointment	270-103	1.0
Roll On Fly Repellent AA	270-107	1.0
Farnam Crush! Fly Spray Concentrate	270-250	2.0
Farnam Crush! Wipe-On Insecticide/Repellent	270-253	0.5
Equicare Flysect Super 7 Repellent Spray	270-300	1.0
Equicare Flysect Super C Repellent Spray	270-301	2.5
Equicare Flysect Repellent Face Lotion	270-305	1.0

Product Name	EPA Registration No.	Percent Active Ingredient (% a.i.)
Equicare Flysect Repellent Spray	270-306	0.5
Farnam X-5306-98	270-326	2.5
Farnam X-5369-99	270-327	1.0
Farnam X-5303-98	270-328	1.0
R & M Flea & Tick Spray #1	769-579	0.5
R & M Flea & Tick Shampoo #1	769-580	0.5
R & M Flea & Tick Spray #2	769-581	0.2
R & M Flea & Tick Shampoo #2	769-582	0.2
R & M Aloe Repellent Treatment	769-583	1.0
R & M Flea & Tick Shampoo #7	769-615	0.5
Dairy-DU Spray	1317-83	0.4
Pyre-Sect Dip	2382-89	4.0
Ultra-Sect "R" IGR Flea & Tick Mist	2382-129	0.5
Happy Jack Fly Ointment	2781-9	1.0
Ptenocide Pet Spray	4691-153	0.2
Alco Parade	5481-16	0.33
Alco Parade (Pressurized)	5481-52	0.4
Farm Dairy Fly Foam Insect Repellent For Horses	9444-28	1.2
Ritter's Flea & Tick Spray	9468-31	0.5
Contact Animal Guard	10806-17	1.33
Speer Equine Spray	11715-23	1.2
Speer Stable Spray	11715-173	1.84
Farnam Super-Sheen Wipe-Plus	11715-230	1.0
Farnum Wipe II Fly Protection	11715-234	1.0
Farnum Wipe-P Fly Protectant	11715-235	1.0
Four Paws Super Fly Repellent	13799-8	1.33
Unicorn Pet Spray	28293-289	0.2
Clean Crop Equinol Horse Spray	34704-597	0.2
Horse Fly Spray R	34704-768	0.2
Aero-Flying Insect Spray Concentrate	35138-79	5.0
Adams Flea and Tick Mist	37425-12	0.5
Adams Ear Mite Lotion	37425-14	1.0

Product Name	EPA Registration No.	Percent Active Ingredient (% a.i.)
Adams 14 Day Residual Flea & Tick Mist	37425-16	1.0
Adams Residual Fly Mist/Wipe	37425-17	1.0
Adams Pyrethrin Dip	37425-19	1.94
Adams Animal Repellent Concentrate	37425-21	1.25
Adams 14-Day Flea Dip	37425-22	4.0
Esbiothrin Flea and Tick Mist	37425-32	0.5
B-Free of Flies	40322-2	1.17
Enforcer Flea & Tick Spray X	40849-57	0.5
Enforcer Flea & Tick Shampoo X	40849-58	0.5
Fleapro Ear Mite Treatment	40849-73	1.0
Flea and Tick Mist	43591-2	0.5
Cenol Dairy Cattle Spray	45385-87	0.2
Dairy Cattle Spray	47000-54	0.2
Happy Horse	51651-1	1.17
Rub-On Horse Insecticide	67517-5	0.7
FLY- PEL	67517-11	0.5
Face Fly Bomb	67517-24	1.2
R & M Aloe Repellent Treatment #1	67572-20	1.0
Elite Residual Mist Plus	68688-22	0.1
Elite Residual Mist Plus Concentrate	68688-26	2.5
Elite Flea and Tick Spray #8	68688-30	0.5
Elite Aloe Repellent Lotion #8	68688-31	1.0
Elite Flea & Tick Shampoo #8	68688-32	0.5
Davis Triple Pyrethrins Flea & Tick Shampoo	69061-4	0.5
Davis Flea and Tick Mist	69061-6	0.5